

RACHFORD (B.K.)

PURPURA HEMORRHAGICA.

BY

B. K. RACHFORD, M.D.,

CLINICIAN TO CHILDREN'S CLINIC, MEDICAL COLLEGE OF OHIO.

FROM

THE MEDICAL NEWS,

October 15, 1892.





[Reprinted from THE MEDICAL NEWS, October 15, 1892.]

PURPURA HEMORRHAGICA.

BY B. K. RACHFORD, M.D.,
CLINICIAN TO CHILDREN'S CLINIC, MEDICAL COLLEGE OF OHIO.

DURING the past summer I saw two cases of purpura that I think worthy of publication. One was a case of purpura fulminans, the other a case of purpura hemorrhagica in which the blood-state was carefully studied from day to day.

CASE I was a helpless idiotic epileptic child, nine years of age, of Irish parentage. The family consisted of nine persons, who occupied a three-roomed cottage, and the hygienic surroundings were bad. Two of the children had diphtheria at the time, and one of them was hopelessly ill, dying a few days later of septicemia. While at the house on the morning of May 1st, the mother asked me to look at the idiot child who did "not seem quite well this morning." The child was irritable, refused to take food, and over the scrotum, abdomen, and thighs were a number of dark-blue hemorrhagic spots, but there was no evidence of diphtheria. These spots increased in size till they ran together, producing a uniform discoloration over the abdomen, scrotum, and anterior portion of the thighs. Small spots appeared also over other portions of the body; but at no time was there any bleeding from the mucous surfaces.

The child died on the morning of May 2d, about



twenty-four hours after the first symptoms of the disease were noticed.

The following points in this case were of special interest to me:

1. Its foudroyancy.
2. The absence of hemorrhage from the mucous membranes.
3. The presence in the same room of malignant diphtheria.
4. The unfavorable hygienic surroundings.

CASE II.—H. W., seven years old, a German.

Family history. Maternal grandfather and grandmother died of pulmonary tuberculosis, and his mother's only brother now has the same disease, but his mother has always been well. On his father's side the family history is good. One sister died in "spasms" when five months old. The patient has two sisters living, five and two years old, respectively. They are anemic, and have enlarged lymphatic glands in the neck. The family is very poor and the hygienic surroundings are bad.

Personal history. The boy is not well nourished, and is rather thin and pale when at his best. The lymphatic enlargement in his neck is well marked. He has never before had a severe bleeding spell.

April 7, 1892. During the night his nose began to bleed without apparent cause.

8th. The bleeding continued and hemorrhagic spots began to appear upon the legs, arms, and chest. They were dark-blue in color, and varied in size from a silver dime to twice the size of a silver dollar.

11th. I saw the boy for the first time this morning. He had been bleeding from the right nostril continuously for four days. He was very anemic

and too weak to stand alone. Pulse 130. I plugged the nostril with absorbent cotton saturated with tannic acid, and ordered $\frac{1}{2}$ grain of ergotin every two hours, absolute rest in bed, head elevated, and milk diet.

12th. Still bleeding. Pulse 140 and thready. Reapplied plug saturated with solution of gallic acid, and continued ergotin, diet, and rest.

13th. Bleeding stopped last night. Pulse 136, irregular and thready. Blood-corpuscles 1,866,000 to the cubic millimeter. Took out the plug, discontinued the ergotin, and ordered saccharated carbonate of iron, 3 grains every four hours.

14th. Boy began to bleed a short time before I reached the house, but the bleeding has been slight. Blood examination shows 25 per cent. of hemoglobin and 2,000,000 blood-corpuscles to the cubic millimeter. Reapplied cotton-plug saturated with gallic acid, and ordered ergotin, iron, diet, and rest.

15th. Hemoglobin 30 per cent., and 2,000,000 corpuscles to the cubic millimeter. No bleeding since yesterday; boy seems much better. Pulse 136; has some appetite, takes milk and eggs. Left out the nasal tampon. Other treatment the same.

16th. Saw boy at 5 P.M. He had been bleeding since some time in the night. During this time he lost a large amount of blood. He seems weaker than ever this morning. Pulse 146 and very thready. Hemoglobin 25 per cent., and 1,300,000 red corpuscles to cubic millimeter. The hemorrhagic spots are scattered over the entire body; the old ones are fading and are brown in color, the fresh ones are dark-purple. This morning the baby sister of the patient struck him a slight blow on the forehead with an Easter egg, and there now marks the spot a dark-blue spot the size of a dollar. But a number of other spots have appeared spontaneously. I plugged

the nostril as before, continued the iron, but discontinued the ergot as I felt quite sure it was doing no good.

18th. No bleeding for two days. Hemoglobin 27 per cent., and 1,800,000 corpuscles. Boy is much stronger. Is eating milk, eggs, and bread. Continued iron, ordered rest, and left out nasal tampon.

20th. No more bleeding. Hemoglobin 30 per cent., 2,240,000 corpuscles. Patient is very much better, can walk across the floor, has good appetite and digestion. Pulse 120. The hemorrhagic spots are fast disappearing. He has been taking 3 grains of saccharated carbonate of iron every four hours. Iron was continued, and meat and potatoes added to his diet.

24th. Has not bled any for a week; he is going about the house; he feels well and has a good appetite. There are only a few faint spots marking the location of the hemorrhagic spots. Boy is still very pale. Hemoglobin 35 per cent., 2,800,000 corpuscles.

May 3. Boy is going to school and says he is well. Hemoglobin 40 per cent., 3,200,000 corpuscles. Ordered syrupus ferri iodidi, $\bar{z}$ ss, three times a day.

8th. Boy seems as well as before the attack. Hemoglobin 55 per cent., 3,200,000 corpuscles.

July 1. Have not seen the boy for nearly two months. He took the iodide of iron for about two weeks and has taken nothing since. He is now quite in his usual health, yet he looks anemic, and has some enlargement of the cervical lymphatics. Hemoglobin 75 per cent., 3,800,000 corpuscles.

The following points in Case II were of special interest to me.

The boy stopped bleeding on the 16th of April,

at which time there was 25 per cent. of the normal quantity of hemoglobin found in the blood, and 1,300,000 corpuscles to the cubic millimeter of blood. From this it will be seen that the amount of hemoglobin and the number of corpuscles were about equally diminished by the hemorrhage. But during the four or five days following the cessation of the hemorrhage there is a marked difference in the rapidity of increase of the number of corpuscles and the amount of hemoglobin. During this time the corpuscles increased in number 25 per cent., but the hemoglobin, notwithstanding the fact that the boy was taking iron all the time, only increased 5 per cent. During the next three weeks (the boy taking iron all the time) the hemoglobin increased much more rapidly than the corpuscles, till there was almost a like percentage of each present.

The foregoing observation is practically the same that I recorded in a paper read before the American Pediatric Society (May, 1892) entitled "The Anemia of Tuberculosis." I there said that after a severe hemorrhage the corpuscles were manufactured so much more rapidly than hemoglobin as to produce a decided chlorosis; the explanation for this seems plain. Hemoglobin cannot be manufactured without iron; the rapidity of the formation of hemoglobin would, therefore, be limited by the iron-supply, but not so with the corpuscles; they are manufactured so rapidly under physiologic laws to meet the deficiency, that there is not sufficient hemoglobin to give to each corpuscle the proper percentage of hemoglobin—hence the chlorosis. But this chlorosis gradually disappears, the corpuscles being manu-

factured so slowly after a time that each corpuscle gets the requisite proportion of hemoglobin. The comparative rapidity of increase of corpuscles and hemoglobin may best be shown by a chart. This chart will be seen to differ from the one given by Dr. Osler in his *Practice of Medicine*.

The etiology and pathology of purpura are by no means well understood, and it is not my purpose here to express an opinion as to the cause and nature of this affection. But I do wish to call attention to some clinical features of the cases reported, that the reader may judge whether or not they have any bearing on the etiology of this disease. But before doing this I would call attention to the well-known fact that symptomatic purpura may occur in any of the zymotic diseases, such as scarlet fever, smallpox, septicemia, tuberculosis, etc., and it may also be produced by certain chemical poisons, such as the virus of snakes, mercury, belladonna, etc. The inference here is that in both instances the disease is caused by chemical poisons. In the zymotic diseases the chemical poisons may be manufactured by the microörganisms in their struggle for existence with the cells. But how these chemical substances produce purpura is a question we are not prepared to discuss with any satisfaction. I will, therefore, only call attention to some of the clinical features of the cases reported and let the reader judge of their etiologic bearing.

I. The course and duration of the disease was not, I am sure, influenced by the medicines given. Case II ran its course like one of the self-limited zymotic diseases, the disease terminating under the

same hygienic conditions as those under which it began.

2. Both of these cases occurred in delicate children with bad hygienic surroundings; in the room with the first case there was a case of malignant diphtheria, and in the second case there was a bad tuberculous family history.

The Medical News.

Established in 1843.

A WEEKLY MEDICAL NEWSPAPER.

Subscription, \$4.00 per Annum.

The American Journal
OF THE
Medical Sciences.

Established in 1820

A MONTHLY MEDICAL MAGAZINE.

Subscription, \$4.00 per Annum.

COMMUTATION RATE, \$7.50 PER ANNUM.

LEA BROTHERS & CO.
PHILADELPHIA.